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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/964,739	09/28/2001	Woong Kwon Kim	043694-5015-03	2171

9629 7590 06/16/2003

MORGAN LEWIS & BOCKIUS LLP  
1111 PENNSYLVANIA AVENUE NW  
WASHINGTON, DC 20004

EXAMINER
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HON, SOW FUN

ART UNIT	PAPER NUMBER
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1772

DATE MAILED: 06/16/2003

13

Please find below and/or attached an Office communication concerning this application or proceeding.

AS-13

# Office Action Summary

Application N .

09/964,739

Applicant(s)

KIM, WOONG KWON

Examiner

Sow-Fun Hon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 04 April 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,3,5-9,11,13-17 and 20-22 is/are pending in the application.
- 4a) Of the above claim(s) 17 and 20-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,5-9 and 13-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Rejections Withdrawn***

1. The 35 U.S.C. 112, 2<sup>nd</sup> paragraph rejections in Paper # 11 (mailed 03/06/03) have been withdrawn due to Applicant's amendment in Paper # 12 (filed 04/04/03).
2. The 35 U.S.C. 103(a) rejections in Paper # 11 (mailed 03/06/03) have been withdrawn due to Applicant's amendment in Paper # 12 (filed 04/04/03).

### ***New Rejections***

#### ***Claim Rejections - 35 USC § 112***

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 5-8, 13-16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification and the original claims disclose a protective layer which comprises an inorganic layer which has compressive stress and an organic layer which has a low viscosity coefficient, but fails to disclose an organic layer which has compressive stress.

#### ***Claim Rejections - 35 USC § 102***

5. Claims 1, 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Kitayama et al. (US 5,654,057).

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Kitayama et al. has liquid crystal display device (LCD) glass substrates wherein the glass substrate is a laminate of plural glass substrates (sheets) and the glass substrate has a layer on the surface formed from chemical ion-exchange (abstract). Kitayama teaches that the chemically reinforced glass substrate has a compressive stress in the surface thereof (column 6, lines 60-65) thus disclosing that the chemically changed layer has a configuration which imparts a compressive stress to the surface of the glass substrate. Since the chemically changed layer is described as strengthened (reinforced), it functions as a transparent inorganic protective layer.

***Claim Rejections - 35 USC § 103***

6. Claims 9, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kitayama et al.

Kitayama et al. has been discussed above and teaches glass substrates of liquid crystal display devices which comprises a first and a second substrate wherein at least one transparent inorganic protective layer on the outer surface of the substrate has a configuration which imparts a compressive stress to the outer surface of the substrate. It is notoriously well-known in the art that a common liquid crystal display has a liquid crystal cell which comprises two glass substrates, a transparent electrode on an inner surface of the glass substrate, an alignment layer on the transparent electrode, and a liquid crystal layer between the two glass substrates.

7. Claims 5-8, 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Margalit et al. (US 5,606,438) in view of Kitayama et al.

Margalit et al. has a liquid crystal display device which has a protective glass layer adhered to the surface of the glass substrate with an organic layer of low viscosity coefficient (liquid adhesive sprayed or rolled onto the surface of the LCD sandwich) (column 1, lines 45-60). It is the examiner's position that the organic material has a viscosity coefficient of several cp to several ten cp since the adhesive is liquid and can be sprayed. The liquid adhesive is acrylic which is thermosetting. The protective glass layer is strengthened (hardened glass 36) and is the only contact point for introducing stress into the glass substrates 30, 31 (column 3, lines 1-50).

Margalit et al. fails to disclose that the stress the protective strengthened glass imparts to the LCD glass substrate is compressive.

Aratani et al. teaches that high compressive stress at the surface of the glass substrate of a liquid crystal display is desirable in order to provide high strength to the glass substrate, and is introduced with a compressive –stress inducing (ion-exchanged surface) layer (column 1, lines 5-50, column 2, lines 50-65). Aratani et al. thus teaches that the stress imparted to the LCD glass substrate by the protective strengthened glass of Margalit et al. has to be compressive in order to be strengthening.

### ***Response to Arguments***

7. Applicant's arguments with respect to claims 1, 3, 5-9, 11, 13-16 have been considered but are moot in view of the new ground(s) of rejection.

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*Conclusion*

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

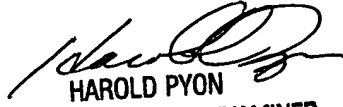
Any inquiry concerning this communication should be directed to Sow-Fun Hon whose telephone number is (703)308-3265. The examiner can normally be reached Monday to Friday from 9:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached on (703)308-4251. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9311.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0661.

SH  
Sow-Fun Hon  
06/09/03

  
HAROLD PYON  
SUPERVISORY PATENT EXAMINER  
1772

6/9/03